1   produce bizarre results that would require equally bizarre findings to support. For

2   example, to maintain a consistent approach to all costs under this theory, the

3   Commission would need to continually monitor the cost of the equipment that

4   competitors purchase and deploy in collocation arrangements and adjust Verizon's

5   factors and prices according to changes in those costs. Alternatively, the

6   Commission would need to find that the investment for splitters (and only

7   splitters) that competitors buy and place into collocation space will affect

8   Verizon's costs differently from any other type of equipment (*e.g.*, DSLAMs) that

9   competitors have deployed or will deploy in collocation space in the future. There

10   is simply no basis for either of these nonsensical results.

11   Q.   **HAVE STATE REGULATORS REJECTED VERIZON'S ATTEMPTS TO**
12   **APPLY THE LINE-SHARING "ADMIN & SUPPORT" CHARGES BASED**
13   **ON SPLITTER INVESTMENTS TO COMPETITORS SELECTING**
14   **"OPTION A"?**

15   A.   Yes. The Public Service Commission of Maryland recently agreed that:

16   . . . Verizon should be prohibited from imposing
17   A&S charges on CLECs under Option A. The
18   Arbitrator is not persuaded by the record evidence
19   nor the arguments of Verizon that there is a causal
20   relationship between a CLEC placing equipment in
21   its collocation space and Verizon's proposed A&S
22   costs. The CLEC chooses the splitter, orders it,
23   installs it in its collocation space and, finally,
24   connects it. It is obvious to this Arbitrator that it is
25   the CLECs who bear the substantial portion, if not
26   all, of the costs under this scenario. In addition, as
27   Rhythms/Covad and Staff note, the fees that CLECs
28   already pay for collocation space should cover any
29   support costs necessitated by their use of the space.
30   It should also be noted that Verizon currently
31   applies an overhead factor of 12 percent to UNEs.

1   Accordingly, the Arbitrator finds that Verizon
2   should be prohibited from imposing any A&S
3   charges upon CLECs under Option A.[140]

4   The Maryland Commission noted that:

5   To the extent that Verizon incurs costs related to the
6   product design of a collocated splitter, then they
7   have already recovered those costs through the
8   Engineering/Implementation Fee that is imposed on
9   the collocating CLEC. Verizon has not established
10   that it would incur additional product design costs
11   beyond those costs recovered through the
12   collocation engineering augmentation fee. To order
13   additional recovery of these costs would equate to
14   double recovery.[141]

15   The Commission should similarly reject this attempt by Verizon to charge

16   competitors a bogus investment-based charge when it is the competitor that has

17   made the investment, and not Verizon.

18 Q. **ON WHAT BASIS DO YOU CONCLUDE THAT THE LINE-SHARING**
19   **"ADMIN & SUPPORT" COST APPLICABLE TO "OPTION C" SHOULD**
20   **BE LOWER THAN THAT REPORTED BY VERIZON?**

21 A. Verizon developed its proposed "admin and support" charge by applying the same

22   EF&I factor discussed above to arrive at a total installed investment figure, and

23   then by applying the network, marketing and other support factors for the digital

24   circuit equipment account to that amount.[142]

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[140]   Public Service Commission of Maryland, Order No. 76852, at 26-27.

[141]   *Id.*

[142]   Verizon Exhibit Part B-15, Section 1.3.

1   For the reasons we discussed above, Verizon's methodology, which

2   applies average, historic, company-wide experiences to the development of line-

3   sharing costs, necessarily overstates those costs. Verizon's proposed monthly

4   charge of $34.89 per 96-line splitter shelf—even in the case of "Option C"—is not

5   justified. As with Verizon's other proposed line-sharing charges, an overly high

6   price will have a deleterious impact on competitive DSL activity and the spread of

7   advanced services throughout Virginia.

8   Verizon used a Digital Circuit Annual Cost Factor ("ACF") that does not

9   accurately reflect costs it might reasonably incur to support a shelf of splitters.

10   The splitter, which is really the card inside the chassis, is a *passive* device—that

11   is, it contains no active electronic components and requires no power supply. It is

12   a simple line filter that has a long life and requires little, if any, maintenance.

13   Moreover, even if one assumes some kind of catastrophe that forced Verizon to

14   replace the entire splitter card shelf each year, the labor cost would not be much

15   more than that for installing the entire line-up in the first place. Based on

16   Mr. Riolo's experience with splitters, one hour of maintenance per year would be

17   more than sufficient. Therefore we propose that the recurring maintenance charge

18   for splitters under "Option C" be set at $4.05 per month per 96-line splitter.

1   **G.   VERIZON'S SPLITTER INSTALLATION CHARGE IS**
2   **EXCESSIVE.**

3 **Q. IS VERIZON'S PROPOSED SPLITTER INSTALLATION CHARGE**
4   **REASONABLE?**

5 A. No. Verizon is proposing a non-recurring Splitter Installation charge of

6      $1,487.52[143] to apply to competitors that elect to have Verizon install splitters in

7   conjunction with "Option C."[144] As we have already discussed, Verizon's

8   inappropriate application of an EF&I factor based on historical data from its

9   digital circuit equipment accounts results in Verizon's excessive estimate of line-

10   sharing splitter installation costs. Verizon's factor produces a result that is more

11   than an order of magnitude beyond any reasonable cost for installation and

12   connection of a shelf of splitters. Indeed, Verizon's assumed cost translates into

13   roughly 33 hours of installation labor[145] (using Verizon's own estimated labor rate

14   for a central office frame technician), far beyond what a simple splitter installation

15   would require. The mounting of the shelf involves inserting four screws and

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[143] Verizon Exhibit Part B-15. (In its testimony, Verizon's Cost Panel says the charge would be $1,482. *See* Verizon Cost Panel Direct at 159.)

[144] Verizon does not propose to apply this charge to competitors who elect "Option A." This proposed treatment is obviously correct, because competitors electing "Option A" are responsible for their own splitter installation. However, contradicting its own approach, Verizon does include this cost when it calculates the supposed "Administrative and Support" element for "Option A."

[145] *** **BEGIN VERIZON PROPRIETARY** ******* *********** ******* ** *******
       ************* ***************** ***************** *****************
       *********************** ***************** ************* *********
(continued)

1   installing the splitter cards by merely sliding each card into a slot. As is readily

2   apparent, this work effort would only take minutes to accomplish, even for an

3   unskilled technician.

4   Furthermore, many of the costs supposedly captured by EF&I factor will

5   have already been paid by the competitor through other charges. The

6   *"engineering"* component of the work needed to prepare splitters for use could

7   encompass tasks such as surveying, inspecting, and selecting the site as well as

8   performing record keeping and coordinating items that are required to have a

9   given equipment item ready for service (power, racking, air conditioning, *etc.*).

10   The *"furnishing"* entails purchasing materials and getting them to the selected site,

11   whereas *"installation"* describes the assembly of the item into its final design. In

12   the case of line splitters located in Verizon space, competitors will have already

13   paid for most of the supporting "engineering and furnishing" before actual splitter

14   cards are installed. Indeed, Verizon itself asserts that most (if not all) of these

15   activities are performed as part of collocation augmentation, for which Verizon

16   imposes a separate charge.[146] Hence, virtually all of whatever engineering would

17   be required has already been accomplished, and the competitor will have already

18   paid for that work through its collocation charges.

******************** ************** ******************** **END VERIZON
PROPRIETARY***

[146]   *See* Verizon New Jersey's Response to Covad Request 1-8, New Jersey Board of Public
Utilities, Docket TO00060356.

1   Q.   **WHAT ACTION DO YOU RECOMMEND THE COMMISSION TAKE**
2   **WITH RESPECT TO SPLITTER INSTALLATION PRICES**
3   **APPLICABLE TO "OPTION C"?**

4   A.   The Commission should reject the excessive proposed installation charge that

5   Verizon developed using a factor-based approach and instead replace Verizon's

6   installation costs with a direct estimate of splitter installation costs. Verizon

7   should develop its non-recurring labor costs by multiplying a reasonable average

8   labor time estimate for installing the cards by the relevant labor rate. A

9   reasonably competent technician could accomplish this entire "EF&I" task in

10   substantially less than 30 minutes. (Recall that the "Engineering" portion of the

11   task has already been performed, and paid for, as part of the collocation

12   augmentation.)

13   **H.   COMPETITORS SHOULD NOT BE FORCED TO PAY TO**
14   **CORRECT VERIZON'S PROVISIONING PROBLEMS THROUGH**
15   **ITS PROPOSED COOPERATIVE TESTING CHARGE.**

16   Q.   **WHAT IS VERIZON'S PROPOSED CHARGE FOR COOPERATIVE**
17   **TESTING INTENDED TO RECOVER?**

18   A.   Verizon proposes a non-recurring charge of $30.78, which appears intended to

19   recover the labor costs associated with coordinating with a competitor and

20   performing continuity testing on a DSL-compatible loop on the due date for the

21   loop's installation.[147]

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[147]   Verizon Cost Panel Direct at 142-144.

1 Q. **SHOULD THE COMMISSION APPROVE VERIZON'S PROPOSED**
2   **CHARGE FOR COOPERATIVE TESTING?**

3 A. No. We understand that the requirement for cooperative testing was established

4   in New York proceedings because Verizon-New York was providing many DSL-

5   capable loops to competitors that did not even meet basic continuity requirements.

6   Verizon's own provisioning difficulties are therefore the cause of the need for

7   cooperative testing, and competitors should not be forced to bear the costs of

8   Verizon's inefficiencies. Verizon-New York's performance problems caused both

9   Verizon-New York and its competitors to incur additional manual activity costs

10   that neither company would choose to incur if Verizon-New York simply

11   provisioned loops as required in its interconnection agreements. The same will

12   hold true for Verizon VA.

13   The need for cooperative testing to make sure that Verizon delivers

14   unbundled loops in compliance with its contractual obligation already forces

15   competitors to incur costs that they should not have to bear. Allowing Verizon to

16   inflate competitors' costs further by imposing its share of the cooperative testing-

17   related costs on competitors would be bad public policy, as the Massachusetts

18   Department[148] and Maryland Commission[149] recognized. Verizon will have every

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[148]   "It is inappropriate to permit Verizon to levy a 'cooperative testing' charge on CLECs,
which is based on costs that are caused by provisioning difficulties experienced by both
Verizon and CLECs for stand-alone xDSL loops ... The record shows that CLECs
already incur their own cost for the cooperative test. Moreover, the record is clear that
Verizon believes such testing is 'mutually beneficial'; therefore, Verizon should share in
(continued)

1   incentive to provide competitors with poor service if it can shift the cost of poor

2   performance onto its competitors.

3   Q.   **IF THE COMMISSION CONSIDERED ADOPTING CHARGES FOR**
4   **COOPERATIVE TESTING, SHOULD ONLY VERIZON IMPOSE THOSE**
5   **CHARGES?**

6   A.   No. If the Commission considers any charges for cooperative testing, which we

7   do not believe it should, the Commission should offset those charges by the costs

8   that competitors will incur for testing services that Verizon has not properly

9   provisioned. Only after Verizon has demonstrated that it can sustain delivery of

10   loops at an acceptable level of quality should the Commission consider allowing a

11   charge for optional cooperative testing as requested by a competitor.

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the cost of cooperative testing by absorbing all of its own costs associated with this tests
as CLECs do. ... Finally, the Department agrees that shifting the costs of this test to
CLECs relieves Verizon of an incentive to improve its loop performance."
Massachusetts Order at 113.

[149] "The Commission finds that each party should bear its own costs with respect to
Cooperative Testing. Both parties, the ILEC and the CLEC, enjoy the benefits of
engaging in cooperative testing and, as such, it would be grossly unfair to require CLECs
to bear the burden of paying for their costs as well as for Verizon's. Additionally,
Verizon, not the CLEC, has the duty and obligation of delivering a functioning high
frequency portion of the loop to the CLEC ordering the line sharing UNE. Verizon's
argument that cooperative testing is necessary for it to comply with this obligation is not
compelling. The Commission believes that the proper allocation of the costs for
cooperative testing is for each party to shoulder its own expenses." Public Service
Commission of Maryland Order 76852 at 39.

1   Q.   **IF THE COMMISSION CONSIDERS ADOPTING CHARGES FOR**
2   **COOPERATIVE TESTING, SHOULD THOSE CHARGES APPLY IN**
3   **CONNECTION WITH LINE SHARING?**

4   A.   No, they should not. As we have explained, there is no justification for adopting

5   Verizon's proposed cooperative testing charges in the first place. However, under

6   no circumstances would such charges be applicable in connection with line

7   sharing, which makes use of existing (working) lines.

8   Q.   **IF THE COMMISSION CONSIDERED ADOPTING CHARGES FOR**
9   **COOPERATIVE TESTING, SHOULD IT BASE THOSE CHARGES ON**
10   **VERIZON'S COST STUDIES?**

11   A.   No. Verizon has built up this charge from task time estimates that include a total

12   (prior to application of occurrence factors) of *****BEGIN VERIZON**

13   **PROPRIETARY ** END VERIZON PROPRIETARY***** minutes of labor

14   time,[150] which substantially overstates the average time that efficient testing and

15   coordination should take on a forward-looking basis. In addition, Verizon has

16   applied an occurrence factor of more than 100% to the verification of dial tone.[151]

17   The result, a whopping *****BEGIN VERIZON PROPRIETARY ** END**

18   **VERIZON PROPRIETARY***** minutes merely to "verify that TC dial tone is

19   present on the assigned facility" is patently absurd, particularly for already

20   working lines (as are required for line sharing). Verifying dial tone requires

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[150]   Verizon VA Wholesale Non-Recurring Costs Model, Tab 76.

[151]   *Id.*

1   nothing more than clipping two leads to the subscriber terminal at the MDF and

2   dialing a simple code on a hand set that Verizon technicians routinely carry with

3   them.

4 **V.   THE COMMISSION SHOULD REJECT VERIZON'S PROPOSED**
5   **"CONDITIONING" CHARGES.**

6 **Q.   WHAT TYPES OF "CONDITIONING" CHARGES DOES VERIZON**
7   **PROPOSE TO ASSESS NEW ENTRANTS THAT SEEK TO PROVIDE**
8   **ADVANCED SERVICES IN VIRGINIA USING UNBUNDLED DSL-**
9   **CAPABLE LOOPS?**

10 A.   Verizon has proposed four basic charges for loop "conditioning." For bridged

11   taps in excess of 6,000 feet, Verizon proposes a charge of $243.37 when only one

12   bridged tap needs to be removed [152] and a charge of $587.55 when multiple

13   bridged taps need to be removed from a loop (of less than 18 kilofeet). For

14   removal of load coils on a loop of between 18 and 21 kilofeet,[153] Verizon

15   proposes a charge of $1,017.95; for removal of load coils on a loop of between 21

16   and 27 kilofeet, Verizon proposes to charge $1,352.54. In addition to these basic

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[152] Verizon has not proposed to charge for removal of bridged tap over 6,000 feet on loops less than 18,000 feet. It is entirely appropriate for Verizon to remove bridged tap that exceeds its own design standards without charge. However, the offer to remove bridged tap in excess of 6,000 feet does not go far enough to meet the engineering design standards. The Carrier Serving Area ("CSA") design standard, which has been in place since 1980, limits the total amount of bridged tap on a line to 2,500 feet. Moreover, a prior design standard, the Serving Area Concept ("SAC") in place since 1972, called for bridged tap to be minimized.

[153] Verizon has not proposed to charge for removal of load coils from loops under 18,000 feet.

1   charges, Verizon proposes to charge $640.47 for the Engineering Work Order

2   purportedly required to provide "conditioning." This charge would be applied to

3   *every* "conditioning" job.

4   In addition, Verizon has proposed an "Add Electronics" charge that would

5   apply to some ISDN/IDSL loops.

6 Q.   **SHOULD THE COMMISSION PERMIT VERIZON TO IMPOSE ITS**
7   **PROPOSED NON-RECURRING "CONDITIONING" CHARGES ON**
8   **COMPETITORS?**

9 A.   No. Verizon's proposed non-recurring "conditioning" charges are fundamentally

10   inconsistent with the economic principles that guide the pricing of all unbundled

11   network elements, including DSL-capable loops in at least three important

12   respects. First, Verizon's proposed "conditioning" charges do not reflect an

13   efficient, forward-looking network architecture. Second, the combination of

14   Verizon's proposed recurring charges and its proposed non-recurring

15   "conditioning charges would recover more than the total forward-looking

16   economic cost of a "conditioned" loop. For both of these reasons, Verizon should

17   not be allowed to impose *any* non-recurring "conditioning" charges on

18   competitors. Third, Verizon's proposed "conditioning" charges do not reflect the

19   tasks and task times that an efficient carrier would experience for removing load

20   coils and excessive bridged tap. Thus, even if it were appropriate to levy a non-

21   recurring "conditioning" charge, it would not be appropriate to allow Verizon to

22   impose the high charges that it has proposed.

1   **A.   VERIZON'S PROPOSED "CONDITIONING" CHARGES ARE**

2   **NOT FORWARD-LOOKING.**

3 **Q.   IS THE NETWORK ARCHITECTURE ON WHICH VERIZON HAS**

4   **BASED ITS NON-RECURRING "CONDITIONING" CHARGES**

5   **FORWARD-LOOKING?**

6 A.   No. The premise that Verizon must remove load coils, excessive bridged taps or

7   repeaters to render a loop suitable for the provision of DSL-based services is

8   based on Verizon's embedded network. A forward-looking network architecture

9   would not contain such load coils, excessive bridged tap or repeaters because they

10   violate the network engineering guidelines in place for over two decades.[154]

11   Indeed, the recurring loop cost studies Verizon submitted to the Commission do

12   not include any load coils and reflect cable sizing that is sufficient to provide

13   dedicated facilities for all existing and reasonably foreseeable loop demand

14   without resorting to the use of bridged tap. Thus, Verizon has admitted that a

15   forward-looking network would not require "conditioning" to provision DSL-

16   capable loops. Indeed, Verizon witness Francis J. Murphy argued in a recent

17   Maryland universal service proceeding that minimization of "conditioning" costs

18   is a critical attribute of a forward-looking network. According to Mr. Murphy:

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[154]   A forward-looking network is designed to meet Carrier Serving Area ("CSA") guidelines, which have been the standard for more than 20 years. A network built to CSA guidelines does not include inhibitors such as load coils and excessive bridged taps that require loops to be "de-conditioned" before they can be used to provide DSL-based services.

1	In its First Report and Order, the FCC mandated
2	that ILECs condition loops for data transmission if
3	technically feasible. Therefore, it is in the interest
4	of both ILECs and their competitors that the
5	forward-looking network used to provide both
6	UNEs and basic service be constructed in a manner
7	that will minimize conditioning costs.[155]

8   Verizon can only propose non-recurring "conditioning" charges by proposing that

9   its non-recurring charges be based on a different network architecture that is not

10   forward-looking and does not "minimize conditioning costs" in the way that its

11   own witness has advocated.

12   As Ms. Murray explains in both her direct testimony and her separately

13   filed rebuttal to Drs. Gordon and Shelanski, the assumption of different network

14   architectures in the recurring and non-recurring cost studies for the same network

15   element violates the Commission's requirement for total cost minimization and

16   creates a significant risk of double-counting.

17   **Q.**   **HAVE ANY STATE REGULATORS COME TO THIS CONCLUSION?**

18   A.   Yes, several state commission have agreed that, given the network architecture in

19   Verizon' recurring cost study, no "conditioning" charge are appropriate. The

20   Massachusetts Department of Telecommunications and Energy recently concluded

21   that Verizon's proposed "conditioning" charge was not consistent with its

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[155]   Rebuttal Testimony of Francis J. Murphy on behalf of Verizon Maryland in Maryland Public Service Commission Case No. 8745, May 21, 2001, at 22.

1   recurring costs.[156] The Public Service Commission of Maryland similarly found

2   that:

3   Based upon the Commission's and the FCC's
4   pricing guidelines, rates for the line sharing UNE
5   are required to be based upon a forward-looking
6   network. In such a network, loop conditioning, or
7   rather de-conditioning, would not be required for a
8   fiber-fed loop, and the only existing copper loops
9   would be less than 18,000 feet for which Verizon
10   has indicated there will be no charge.

11   As noted earlier, Verizon has argued that the FCC's
12   *Line Sharing Order* expressly allows them to
13   recover loop-conditioning costs. The Commission
14   disagrees with this interpretation. The FCC's
15   directives related to recovery of loop conditioning
16   costs are only relevant to states that have assumed
17   copper feeder for purposes of calculating forward
18   looking costs. The FCC has not directed states to
19   assume copper feeder in calculating these costs.
20   Without such a directive, it would be illogical for
21   the FCC to mandate recovery of costs that are
22   relevant only to a network assumption that may not
23   have been approved in a particular state.[157]

24   The Utah Public Service Commission has likewise found that:

25   A TELRIC model (or a forward-looking, efficient
26   provider) would not design a network that required
27   loops to be conditioned or groomed before services
28   today's customers expect could be provided. It
29   follows, and we so conclude, that the buyer of an
30   unbundled loop should not have to pay for any such
31   upgrading: the price of the loop presupposes
32   sufficient quality, by which is meant a loop capable

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[156]   *Massachusetts Order* at 103.

[157]   Public Service Commission of Maryland Order 76852 at 34-35, footnotes excluded.

1   of meeting not just current demands but demands
2   for advanced services as well. Accordingly, we
3   disallow charges for line conditioning or
4   grooming.[158]

5   **B.   VERIZON SUBSTANTIALLY INFLATES LOOP**
6   **"CONDITIONING" COSTS BY FAILING TO INCORPORATE**
7   **EFFICIENT ENGINEERING PRACTICES IN ITS COST STUDIES.**

8   Q.   **ARE VERIZON'S PROPOSED "CONDITIONING" CHARGES**
9   **REASONABLE?**

10 A.   No. Even assuming that it were consistent with TELRIC principles to levy a non-

11   recurring "conditioning" charge, Verizon's proposed "conditioning" charges are

12   excessively high. Including the exorbitant "Engineering Work Order" charge that

13   Verizon would impose for each "conditioning" job, Verizon has proposed charges

14   of $883.84 for removing one bridged tap, $1,228.02 for removing multiple

15   bridged taps, and $1,658.42 and $1,993.01, respectively, for removal of load coils

16   from loops of between 18 and 21 kilofeet and between 21 and 27 kilofeet.

17   Moreover, these charges do not include the excessive loop "qualification" charges

18   that Verizon would likely impose before "conditioning" could even begin.

19   These non-recurring charges are sufficiently high that they would, if

20   adopted, create an almost insurmountable barrier to entry in Virginia for DSL

21   providers seeking to serve customers with either long loops or shorter loops that

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[158] Utah Public Service Commission Phase III Part C Report and Order in Docket No. 94-999-01, issued June 2, 1999, footnote omitted. An electronic copy of this order is available at http://www.psc.state.ut.us/telecom/99orders/jun/9499901ro.htm#N_4_.

1   happen to have excessive bridged taps. Verizon's proposed non-recurring

2   "conditioning" charges are so high that they exceed, in some cases by many

3   multiples, the entire forward-looking cost to build a new unbundled loop. These

4   proposed "conditioning" charges reflect unreasonably high cost estimates, even

5   for the "conditioning" of outdated, embedded plant.

6 Q. **IS THE METHODOLOGY ON WHICH VERIZON HAS BASED ITS**
7   **PROPOSED NON-RECURRING "CONDITIONING" CHARGES A**
8   **RELIABLE BASIS FOR SETTING PRICES?**

9 A. No. Verizon derived its work-time estimates for "conditioning," as it did for most

10   of its non-recurring cost estimates, by surveying its employees across the region.

11   As we have already indicated, Verizon committed numerous errors in survey

12   design, data collection and data processing. Our examples have shown that many

13   of these errors are particularly egregious with respect to "conditioning" activities,

14   contributing to the inflation of Verizon's study results and rendering those results

15   useless for estimating efficient costs.

16   Similarly, although Verizon's cost panel asserts that "typical occurrence

17   factors and forward-looking adjustment factors were applied to obtain forward-

18   looking time estimates for the work activities required to complete the specific

19   qualification and conditioning tasks,"[159] this does not appear to be the case with

20   respect to "conditioning" or "Engineering Work Order" work-steps. Verizon

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[159]   Verizon Cost Panel Direct at 140.

1   assigned an occurrence factor of less than 100% to only one task included in the

2   "conditioning" studies, "send tone." In addition, Verizon made no forward-

3   looking adjustments to any of its estimated "conditioning" times. In both

4   respects, Verizon's methodology is severely flawed, as we demonstrate in

5   Attachment A.

6   **Q.   IS THERE ONE MAJOR FLAW IN VERIZON'S APPROACH THAT IS**
7   **RESPONSIBLE FOR MOST OF THE GAP BETWEEN VERIZON'S**
8   **REPORTED COSTS AND THE COST TO "CONDITION" A LOOP BY**
9   **REMOVING LOAD COILS OR BRIDGE TAP USING EFFICIENT**
10   **ENGINEERING PRACTICES?**

11   A.   Yes. Verizon has greatly inflated its reported costs by developing those costs as if

12   it would "condition" loops one-at-a-time. For example, Verizon assumes that it

13   will remove load coils pursuant to each specific request and would remove the

14   load coil from an individual loop. To the contrary, it is a standard, efficient

15   engineering practice to deload more than entire binder groups (typically 25 loops)

16   at one time. Similarly, it is unusual and inefficient to remove bridge tap one-loop-

17   at-a-time as Verizon's assumes will always be the case.

18   For numerous reasons, which we explain in detail in Attachment A, the

19   Commission should base any charge for removing load coils on the assumption

20   that Verizon will, on average, deload 25 pairs at a time on loops longer than

21   18,000 feet. Similarly, the Commission should assume that Verizon will, on

22   average, unbridge 50 pairs at a time.

1 Q. **ON WHAT BASIS COULD THE COMMISSION ESTABLISH**
2   **"CONDITIONING" CHARGES THAT REFLECT ENGINEERING**
3   **PRACTICES GENERALLY EMPLOYED IN THE**
4   **TELECOMMUNICATIONS INDUSTRY AND REASONABLY**
5   **EFFICIENT TASK TIME ESTIMATES?**

6 A. The Commission could establish such charges based on the tasks and work-times

7   presented in Attachment A. Working in collaboration with Mr. John C. Donovan,

8   Mr. Riolo developed the alternative tasks and task time estimates supplied in

9   Attachment A based on over thirty years of personal experience in performing

10   such operations and in supervising others who performed such operations.

11   Attachment A also contains restated tasks and work times for the Engineering

12   Work Order element. (As we noted above, Verizon proposes to levy an

13   Engineering Work Order charge for each individual "conditioning" order.)

14   Our analysis shows that the total average time for removing all load coils

15   from a loop is just over 22 minutes per pair and that the total average time for

16   removing a bridged tap from a loop is just over one minute per pair. At a labor

17   rate of $45, for example, a load coil removal charge of $16.63 per pair and a

18   bridged tap removal charge of $0.89 would apply.[160]

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[160] This discussion uses an illustrative labor rate, which is intended to be conservative, to
       show an upper bound for efficient "conditioning" costs that does not need to be treated
       as proprietary. It is a simple matter to substitute any adopted labor rate and any
       applicable shared and common cost to develop a final, Verizon-specific result.

1   Q.   **DO YOU PROPOSE THAT THE VALUE OF THE RESTATED**
2   **ENGINEERING WORK ORDER COST BE ASSUMED FOR EACH**
3   **SERVICE REQUEST THAT REQUIRES "CONDITIONING"?**

4   A.   No. Should the Commission decide to compensate Verizon for an engineering

5   cost associated with "conditioning" loops, the Commission should recognize that

6   an efficient company would only need to issue one Engineering Work Order for

7   each job to "condition" multiple loops. Thus, at most, the Commission should

8   only allow Verizon to recover the restated Engineering Work Order cost on a "per

9   unit basis," with the cost spread across the average number of loops to be

10   "conditioned" per order. Based on a hypothetical labor rate of $45 per hour, the

11   Engineering Work Order would add from $0.90/pair to $1.86/pair ($45 per hour

12   multiplied 1.2 and 2.48 minutes per pair, respectively) for removing load coils and

13   from $0.45/pair to $0.93/pair for removing bridged tap ($45 per hour multiplied

14   0.6 and 1.24 minutes per pair, respectively).

15   **C.   VERIZON'S PROPOSED NON-RECURRING CHARGE TO "ADD**
16   **ISDN ELECTRONICS (REPEATER) IS YET ANOTHER**
17   **EXAMPLE OF DOUBLE-COUNTING AND EXCESSIVE COSTS.**

18   Q.   **PLEASE DESCRIBE VERIZON'S PROPOSED NON-RECURRING**
19   **CHARGE TO ADD ISDN ELECTRONICS (REPEATER).**

20   A.   Verizon proposes a non-recurring charge of $1,118.11 to "Add Electronics" that

21   would be required to provision ISDN-type service over longer all-copper loops. A

22   substantial portion of Verizon's direct cost estimate for this element consists of

23   the material cost for the repeater itself. The remainder of Verizon's reported cost

24   is for engineering, central office and outside plant technician time required to

1   install the repeater system. With Verizon's proposed Engineering Work Order

2   charge, the total charge for Add ISDN Electronics would be $1,758.58.

3   Q.   **IS VERIZON'S PROPOSED ADD ELECTRONICS CHARGE**
4   **REASONABLE?**

5   A.   No. First, as is the case with Verizon's costs for loop "qualification" and

6   "conditioning," Verizon's reported non-recurring cost for this element is

7   duplicative of costs recovered through its recurring charges for digital (*i.e.*, ISDN

8   or IDSL-capable) loops. Verizon's existing forward-looking recurring costs for

9   the digital line would already include the cost for the required electronics —

10   regardless of loop length. Furthermore, ISDN repeaters are required for long

11   copper facilities, but not for the fiber and DLC systems assumed in the approved

12   forward-looking recurring cost studies for unbundled loops. Competitors are

13   paying more for ISDN loops than for analog loops, and the increment that

14   competitors are paying on a recurring basis to Verizon reflects the costs of

15   providing ISDN over fiber for loops of all lengths. Verizon's proposed non-

16   recurring charge is for the exact same capability—but under the assumption of a

17   different, all-copper network. For the reasons we previously discussed, Verizon

18   should not be allowed to assume fiber-fed DLC in its recurring cost analysis and,

19   at the same time, propose a hefty non-recurring charge to recover the cost of

20   repeaters needed to provide ISDN-type services over longer copper loops that

21   would not even exist in the forward-looking network architecture assumed in the

22   recurring cost study.

1   Second, Verizon should have treated the repeater material cost as a

2   recurring cost, as the company would ordinarily treat its other loop investments.

3   A repeater is a relatively discrete network component, with a high degree of

4   reusability or "fungibility." There is no valid reason to assume that Verizon could

5   not use the same repeater to serve a future customer at the same location, or else

6   reuse the repeater to provide ISDN services to a different wholesale or retail

7   customer of the company. Indeed, the repeater that Verizon uses for a competitor

8   tomorrow could well be one that it removed from service from one of its retail

9   customers last week. It is therefore discriminatory and anticompetitive for

10   Verizon to treat the repeater investment entirely as an up-front, non-recurring cost

11   when it is being used to provide service to new entrants.

12   Third, Verizon's Cost Panel admits that the "cost of the investment is

13   Verizon VA's actual, *current* purchase price for the electronics."[161] Verizon's

14   proposed charge is not forward-looking in any respect.

15 Q. **DOES VERIZON'S COST PANEL TESTIMONY ILLUSTRATE HOW**
16   **COSTS CAN BE DOUBLE-COUNTED AS THE RESULT OF APPLYING**
17   **INCONSISTENT ASSUMPTIONS TO DIFFERENT ELEMENTS?**

18 A. Yes. Verizon's assertion at page 163 that it has not double-counted ISDN costs

19   provides an instructive example. Verizon attempts to rebut our argument here by

20   asserting that it did not already include the cost "of extension electronics for use

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[161]   Verizon Cost Panel Direct at 162, emphasis added.

1 on copper loops" in its recurring cost study. Verizon's claim, while literally true,

2 is highly misleading.

3   Verizon did not include the costs for copper-based extension technology in

4 its recurring costs because it did not include any long copper loops in its study.

5 Hence, Verizon assumed that no loops that could use copper-based extension

6 technology would exist in its forward-looking network. Verizon did, however,

7 include costs for the same functionality based on the loop design that it did

8 include in its study. Instead of using copper, Verizon assumed that long ISDN-

9 capable loops would be provided over fiber. It therefore added the substantial

10 additional cost for the electronics required to support ISDN over fiber to the

11 recurring cost of all long ISDN-capable loops.

12   Putting together the two parts of Verizon's proposal, Verizon would

13 include the cost of both copper and fiber ISDN extension technology in the cost of

14 every ISDN-capable loop that a competitor purchases. This is a straightforward

15 case of double-counting that is, in part, masked by Verizon's disjointed approach

16 to developing recurring and non-recurring costs.

17 **Q.** **WHAT IS YOUR RECOMMENDATION TO THE COMMISSION**
18   **CONCERNING THE ADD ISDN ELECTRONICS (REPEATER)**
19   **CHARGE?**

20 **A.** The Commission should reject Verizon's proposed ancillary charge for Add ISDN

21 Electronics (Repeater).

1 **VI. VERIZON'S PROPOSED LOOP "QUALIFICATION" COST ANALYSIS**
2 **IS INAPPROPRIATE.**

3 **Q. HOW HAS VERIZON PROPOSED TO PROVIDE LOOP**
4 **"QUALIFICATION" DATA TO COMPETITORS?**

5 A. Verizon has proposed three separate loop "qualification" elements in this

6 proceeding: (1) Mechanized Loop Qualification through which competitors

7 would access Verizon's automated loop qualification database, for which Verizon

8 proposes a monthly recurring per link charge of $0.26; (2) Manual Loop

9 Qualification in which Verizon would "qualify" a loop manually, for which

10 Verizon proposes a non-recurring charge of $114.52; and (3) an Engineering

11 Query through which a competitor would be able to obtain more specific loop

12 makeup information, for which Verizon proposes a non-recurring charge of

13 $139.42.

14 **Q. WHAT COSTS IS VERIZON'S MECHANIZED LOOP QUALIFICATION**
15 **CHARGE INTENDED TO RECOVER?**

16 A. Verizon's proposed monthly recurring charge for Mechanized Loop Qualification

17 is designed to recover the cost of creating and maintaining an automated loop

18 qualification database that the company designed to provide a "yes/no" indication

19 regarding DSL qualification as determined by Verizon for its former xDSL retail

20 offerings, as well as the costs of updating Verizon's legacy databases with loop

21 qualification information.

1 Q. **IS IT REASONABLE TO EXPECT COMPETITORS TO FUND THE**
2   **DEVELOPMENT OF VERIZON'S LOOP QUALIFICATION**
3   **DATABASE?**

4 A   No. It is not appropriate to impose the costs of developing of Verizon's retail

5   database on competitors. Even if Verizon had designed the database in a manner

6   that facilitated the wholesale provision of qualified DSL-capable unbundled loops,

7   rather than to benefit Verizon's retail operations, then as an economic matter,

8   those costs would fall within the scope of the competition-onset costs that

9   AT&T/WorldCom's Recurring Cost Panel discusses in its concurrently-filed

10   rebuttal testimony with respect to Verizon's access to OSS charges. To the extent

11   that Verizon would not otherwise have incurred such costs in the routine course of

12   doing business from a forward-looking perspective (*e.g.*, to upgrade and improve

13   the efficiency of the incumbent's own operations), Verizon should recover such

14   competition-onset costs in a competitively neutral manner.

15   Furthermore, information provided by a Verizon VA affiliate makes clear

16   that the LFACS updates for which Verizon seeks to charge new entrants would

17   actually have a lasting benefit for all subsequent service orders involving that loop

18   an thus should not be imposed solely on competitors. According to Verizon-New

19   York:

20   In order to ensure that a request for an ADSL-
21   qualified loop can be processed on a mechanized
22   basis, loop make-up information and the Count
23   Qualification code must be present in the LFACS

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database. *This information is used by LFACS to assign a facility with the appropriate characteristics based upon the type of service requested.*[162]

5   The cost of such database updates appears to be a significant portion of

6   Verizon's mechanized loop qualification cost.[163]   Thus, it appears that Verizon is

7   attempting to force new entrants to fund its efforts to clean-up and update its

8   embedded databases that are useful for retail as well as wholesale service. Thus,

9   insofar as it is appropriate to include *any* costs for database updates, Verizon

10   should have treated those costs as recurring costs spread over the relevant total

11   increment of demand, namely, all loops in its service territory.

12   Moreover, Verizon should not have included these database update costs

13   in any portion of a forward-looking, long-run cost study, because Verizon should

14   have been entering this information routinely into LFACS. If Verizon had

15   maintained its LFACS records in a complete manner, it would not be necessary

16   for Verizon to perform the update activities at the time a new entrant ordered a

17   DSL-capable loop.

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[162]   Verizon-New York's Response to RL-BA-5 in NYPSC Case 98-C-1357 (emphasis added).

[163]   *See* Verizon Exhibit Part B-13 at Workpaper 3.

1   Q.   **IS VERIZON'S PROPOSED MECHANIZED LOOP QUALIFICATION**
2   **CHARGE APPROPRIATE?**

3   A.   No. Verizon designed its mechanized loop qualification database specifically

4   around the needs of its retail DSL operations. Verizon's database is less useful to

5   competitors and is more expensive than would be read-only access to Verizon's

6   underlying databases. Verizon's current mechanized loop qualification porcess

7   provides a summary "yes/no" indicator that reports whether the loop in question

8   meets the technical requirements of Verizon's retail ADSL offering, "Infospeed

9   DSL." Such an indicator, specific to the equipment of Verizon's vendor and the

10   deployment decisions that Verizon has made for its own (or its affiliate's) retail

11   service offering, is clearly not relevant to a competitor's service offerings.

12   Furthermore, it masks the underlying loop makeup data that Verizon's own

13   engineers must evaluate to determine the suitability of particular loops for

14   Verizon's retail ADSL service. It seems that Verizon envisions that this more

15   detailed loop makeup information would only be available to competitors at a

16   heavy premium through the manual loop qualification or engineering query

17   process.[164]

18   The Commission should require Verizon to provide direct read-only

19   access to the databases that Verizon's own personnel use, via an electronic

20   interface. We acknowledge that Verizon is making efforts to expand the

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[164]   *See, e.g.*, Verizon Cost Panel Direct at 128-129 and 136-137.

1   information included in its mechanized loop qualification database to take some

2   account of additional information that competitors might require to do their own

3   qualification.[165] Providing that additional detail is not the same as providing

4   competitors with equal access to the underlying data that Verizon can access to

5   develop its own qualification processes. All that competitors seek is to have read-

6   only access to this underlying data, which Verizon admits exists in LFACS and

7   similar databases. At a minimum, competitors should only have to pay for the

8   mechanized access to LFACS, not for Verizon's separate mechanized loop

9   qualification database, which it developed based on retail needs, not the needs of

10   competitors.

11 **Q.**   **IS DIRECT READ-ONLY ACCESS TO VERIZON'S DATABASES WITH**
12   **LOOP MAKEUP INFORMATION FEASIBLE?**

13 **A.**   Yes. It is entirely feasible for Verizon to provide a direct read-only access to

14   LFACS and similar databases, where much of the basic information that a

15   competitor would need to determine whether a loop is qualified for its intended

16   DSL application resides.[166] Verizon field operations personnel have been able to

17   obtain such access for years.

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[165]   *See, e.g.,* Verizon Cost Panel Direct at 130.

[166]   *See* Verizon-New Jersey's Response to Covad Request 1-43, New Jersey BPU Docket No. TO00060356.

1   Even Verizon accepts that there is not any activity associated with loop

2   qualification that a competitor with trained and experienced personnel could not

3   perform on its own behalf if it had access to the same records, databases, and test

4   systems.[167] Given such access, many or all of the engineering activities for which

5   Verizon seeks compensation through loop "qualification" charges would be

6   unnecessary.

7   Q. **IS VERIZON'S REPORTED MECHANIZED LOOP QUALIFICATION**
8   **COST PROBLEMATIC IN ANY OTHER RESPECT?**

9   A. Yes. Although Verizon's study shows task times per line, Verizon has admitted

10   that it does not actually perform any of the related tasks on a line-by-line basis.

11   Instead, Verizon issues electronic commands and performs batch tasks that affect

12   numerous lines at a time. Whatever information Verizon might have used to

13   derive the artificial per-line task times that appear in its study is still entirely

14   hidden. Therefore, not only is it impossible to check the logic of Verizon's

15   conversions, it is also impossible to investigate if Verizon's results are within the

16   realm of reason. That is the case because no one at Verizon has ever performed

17   line-by-line tasks that actually correspond with the times shown in the study.

18   It is clear that the study erroneously amortizes costs over the expected

19   duration of an individual competitor's lease of that loop to provision xDSL-based

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[167]   *See* Verizon-New Jersey's Response to WorldCom Request 3-25, New Jersey BPU
        Docket No. TO00060356.

1   services. This modeling assumption understates the useful life of the information

2   in the database. The loop makeup data related to the line will remain in the

3   database, and subsequent competitors can use that same information to determine

4   whether to obtain that unbundled loop to provision xDSL-based service to the

5   same end-user or any future end-user served by the same loop facility.

6   Finally, from a cost-causation perspective, it makes more sense to charge

7   for loop qualification on a per-query basis, just as Verizon charges for other

8   database queries.

9   **Q.**   **WHAT IS AN APPROPRIATE FORWARD-LOOKING COST-BASED**
10   **PRICE FOR ACCESS TO LOOP MAKEUP INFORMATION, BASED ON**
11   **EFFICIENT ELECTRONIC ACCESS TO THAT INFORMATION?**

12   **A.**   As Ms. Murray discussed in her direct testimony, the forward-looking cost of

13   providing loop makeup information electronically per query should be *de minimis*.

14   Therefore, Verizon should not levy a separate charge for access to loop makeup

15   information.

16   **Q.**   **IS IT APPROPRIATE FOR VERIZON TO CHARGE COMPETITORS**
17   **FOR MANUAL LOOP QUALIFICATION OR AN ENGINEERING**
18   **QUERY?**

19   **A.**   No. A forward-looking cost study of access to loop makeup information should

20   assume that competitors have nondiscriminatory access to databases providing

21   information relevant to loop makeup. Therefore, the Commission should reject

1   Verizon's proposed Manual Loop Qualification and Engineering Query

2   charges.[168]

3   Q.   **WHAT INFORMATION DOES VERIZON PROPOSE TO PROVIDE AS**
4   **PART OF MANUAL LOOP QUALIFICATION?**

5   A.   Verizon's proposed Manual Loop Qualification function would provide a

6   competitor some limited additional information beyond that contained in the basic

7   fields of the database. As a result of the manual loop qualification process, "the

8   CLEC will be advised if the loop is qualified for xDSL *per Verizon standards*."[169]

9   Q.   **WHEN DOES VERIZON PROPOSE TO APPLY ITS PROPOSED NON-**
10   **RECURRING CHARGE FOR MANUAL LOOP QUALIFICATION?**

11   A.   Not only would Verizon apply the manual charge when a competitor specifically

12   requests the level of information that it provides, but it is our understanding that

13   Verizon also would impose the Manual Loop Qualification charge for loops in

14   central offices that have yet to be added to the company's mechanized loop

15   qualification database.

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[168]   Should a carrier request the information manually or require some level of detail that would not normally be mechanized, it might be appropriate to apply a manual charge for that specific case.

[169]   Verizon Cost Panel Direct at 137, emphasis added.

1   Q.   **IS IT REASONABLE FOR VERIZON TO CHARGE COMPETITORS**
2   **FOR MANUAL LOOP "QUALIFICATION" IN THIS MANNER?**

3   A.   No, it is not. Manual loop qualification for loops in central offices that have yet to

4   be input into the electronic database is clearly an interim, inefficient process and

5   therefore is not, by definition, a charge based on *long-run* costs. Moreover,

6   providing Verizon compensation for whatever manual, inefficient process it

7   invents for competitors creates the wrong incentive. As long as Verizon can pass

8   along to its competitors the cost of whatever manual, short-run processes it

9   imposes, the company will have every incentive to delay implementation of more

10   efficient, electronic interfaces. Indeed, with such a pricing policy, Verizon will

11   have an incentive to delay implementing mechanized handoffs for all future

12   provisioning enhancements related to new services so as to keep the costs of its

13   potential rivals artificially inflated. Thus, the Commission should not permit

14   Verizon to assess a manual loop "qualification" charge for competitors to obtain

15   information that should be available in the short run (let alone in the long run) in a

16   mechanized fashion.

17 Q.   **SHOULD THE INFORMATION THAT COMPETITORS REQUIRE BE**
18   **UBIQUITOUSLY AVAILABLE IN VERIZON'S MECHANIZED**
19   **SYSTEMS?**

20 A.   Yes, with rare exceptions. It should be possible to access data regarding the

21   majority of loops from existing legacy systems such as LFACS; there should be

22   no need to develop new loop makeup databases or to update existing databases.

1   Incumbents installed loop inventory management databases such as

2   LFACS, in different forms, over 20 years ago. The incumbents use these

3   databases to assign loops; therefore, the databases contain at least some loop

4   makeup information on each and every loop. Although the incumbents did not

5   fully populate these databases with all the categories of loop makeup data at their

6   inception, it has long been standard within the industry that all plant changes

7   should be input to the databases on a going forward basis. The incumbents'

8   engineering personnel were supposed to enter the modified loop makeup of

9   existing plant into the database any time the plant was altered. Given the

10   frequency of plant additions, changes, rearrangements, and removals over the past

11   20+ years, the necessary loop makeup data for virtually all of the Verizon's plant

12   should now reside in the relevant databases.

13   To the extent that information needed for loop qualification resides only in

14   Verizon's "plats" (which are paper plant records), rather than in electronic

15   databases, it reflects Verizon's failure to populate its databases as it should have

16   given the upgrades that Virginia ratepayers have been funding for years.

17   Q.   **IF THE LOOP MAKEUP INFORMATION IS MISSING FROM**
18   **VERIZON'S DATABASES, WHO SHOULD BEAR THE COSTS FOR**
19   **MANUALLY OBTAINING THE INFORMATION?**

20   A.   It is Verizon's responsibility to follow its own practices for fully and accurately

21   populating its databases, and maintaining those databases in such a way that they

22   contain accurate information. The costs for populating and maintaining OSS

23   databases have traditionally been passed on to consumers as part of recurring

1   costs. In a competitive environment, the incumbent should pay for error

2   correction, should it be found that existing practices are either not being followed,

3   or are not being done accurately. If loop qualification information that should

4   have been in LFACS is missing, then Verizon should obtain the appropriate

5   information, correct its own database(s), and provide the information to the

6   requesting carrier, in an expeditious manner, without new charges being imposed

7   on the competitor. If anything, Verizon should be compensating the competitor

8   for harmful delay associated with waiting for the information to be obtained

9   manually, rather than via a real-time mechanized interface.[170]

10 **Q.**   **IS VERIZON'S ENGINEERING QUERY CHARGE REASONABLE?**

11 **A.**   No, it is not. The cost support for Verizon's proposed Engineering Query charge

12   contains tasks that would not occur given a forward-looking, least-cost analytical

13   framework, and also assumes task times which appear to be excessive. These

14   assumptions have inflated Verizon's claimed costs for this activity beyond a

15   reasonable level.

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[170]   Moreover, even if the Commission does not hold Verizon accountable for providing
        access to the information that is supposed to be in its databases, it might be substantially
        more efficient simply to allow the competitor to test lines for loop qualification for
        themselves when mechanized records are not available, as opposed to Verizon's extreme
        proposed costs for looking up data on paper records.

1 Q. **WHAT DEFICIENCIES HAVE YOU IDENTIFIED IN VERIZON'S COST**
2 **SUPPORT FOR ITS PROPOSED MANUAL QUALIFICATION-RELATED**
3 **ENGINEERING QUERIES?**

4 A. A particularly egregious example of Verizon's loading of unnecessary and

5 redundant costs into the Engineering Query occurs at Steps 15 through 18 of the

6 Facilities Management Center.[171] The specific activities occurring therein are:

7 Step 15: "Create worksheet indicating the length of the run, the gauge of

8 the wire and location of any bridged tap(s), load coils or DLC."

9 Step 16: "Complete loop make-up form from the worksheet."

10 Step 17: "Update LFACS DB with length, gauge, bridged tap(s), load

11 coils and DLC information and update LIVEWIRE with ADSL loop length."

12 Step 18: "Forward information to the TISOC."

13 The first cost overstatement in this portion of Verizon's study is the

14 inclusion of Step 17. In that step, the Verizon employee is updating Verizon's

15 LFACS and LIVEWIRE databases with the loop information obtained on behalf

16 of the competitor. Although this activity may be useful for future access to that

17 loop information (for both Verizon and competitors), it has nothing to do with the

18 objective of responding to the carrier that requested the Engineering Query, and

19 should be entirely eliminated from the Engineering Query cost and charge.

20 Instead, this work is a database maintenance or update activity, conceptually

21 similar to the work undertaken by Verizon to establish and maintain accurate

1   databases on an ongoing basis. Therefore, the costs associated with this work (to

2   the extent they are legitimate forward-looking costs) should be (and probably

3   already have been) treated the same as any other recurring cost—*i.e.*, recovered as

4   part of the recurring charge for the company's access lines.

5   Moreover, the task descriptions make clear that the process contemplated

6   by Verizon includes the costs of entering the same loop data *three* separate times:

7   first, into a worksheet (Step 15); second, into the loop make-up form (Step 16);

8   and third, into the LFACS and LIVEWIRE databases (Step 17). Verizon should

9   not charge competitors for such extensive data entry for the limited number of

10   loop data items being provided.

11   At a task level, Verizon's assumptions are also unreasonable. Given an

12   appropriate loop makeup form, there would be no need for Verizon to prepare a

13   separate, additional, worksheet. Verizon would enter the loop data only once.

14   Thereafter, the electronic loop makeup form could be forwarded to TISOC

15   without additional manual input (such as logging into a new system). Thus,

16   Verizon could update the data essentially at the press of a key, instead of the many

17   minutes that Verizon assumed (Step 18).

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[171]   Verizon VA Wholesale Non-Recurring Costs Model, Tab 66.